IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:      White et al.

Serial No.        :        10/510,934

Filed             :        May 20, 2005

For               :        Minimally Invasive Surgical Reamer
                           And Connection

Examiner          :        Lawson, Matthew J.

Group Art Unit    :        3775

Confirmation No.  :        7095

Commissioner for Patents
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PROPOSED AMENDMENT

Sir:

In response to the Office Action dated July 22, 2010, the
Applicants amend and remark as follows:

<u>In the Specification</u>:

Please amend published paragraph 0036 as follows:

FIG. 9 is a top view of FIG. 8, showing the <u>concave</u> ~~convex~~ width (x+z) of the static insertion profile;

Please amend published paragraph 0042 as follows:


    FIG. 15 is a side view of an alternative reamer of FIG. 12, shown having a toothed shell portion with a <u>concave</u> ~~convex~~ static insertion profile and an alternative bladed design without banded base portions;

In the Claims:

1.    (Currently Amended)        A surgical reamer for cutting a
bone socket, comprising:

    a)    a hollow dome comprising:

        i)    a dome portion of a hemisphere extending from an
apex to a lower edge, the dome portion being
rotatable about a longitudinal axis that is
perpendicular to a theoretical equatorial plane of
the hemisphere and that passes through the apex of
the dome portion, wherein the dome portion has an
outer surface presenting multiple cutting sites
comprising apertures suitable for passing debris
into a cavity defined by an inner surface of the
dome where the debris may accumulate;

        ii)   at least two opposed first edge portions of the
lower edge residing on the theoretical equatorial
plane, wherein a second theoretical plane
<u>perpendicular to the equatorial plane</u> intersects
~~the dome portion along~~ the longitudinal axis and
~~along the~~ <u>two of the at least two</u> first edge
portions residing on the theoretical equatorial
plane; and

        iii)  at least two <u>continuously curved</u> second edge
portions of the lower edge spaced from the
theoretical equatorial plane toward the apex,
wherein at least one ~~of the~~ second edge <u>portion</u>
~~portions~~ resides on opposite sides of the second
theoretical plane ~~with at least two of the second
edge portions being~~ disposed between and connected
to two of the first edge portions; and

b)    an alignment structure connected to the inside surface
      of the dome portion for detachably connecting the
      hollow dome to a drive mechanism.

2.    (Withdrawn and Previously Presented)    The reamer of claim
1 wherein the at least two opposed first edge portions are
curved portions.

3.    (Withdrawn and Previously Presented)    The reamer of claim
2 wherein the at least two first curved portions intersect the
theoretical equatorial plane and describe a diameter of the
hollow dome.

4.    (Previously Presented)    The reamer of claim 1 wherein the
second curved portions are opposed to one another on opposite
sides of the second theoretical plane.

5.    (Withdrawn and Previously Presented)    The reamer of claim
1 wherein the at least two second curved portions are concave
relative to the rotational axis.

6.    (Previously Presented)    The reamer of claim 1 wherein the
at least two second curved portions are convex relative to the
rotational axis.

7.    (Withdrawn and Previously Presented)    The reamer of claim
1 wherein the at least two second curved portions are circular
or parabolic.

8.    (Withdrawn and Currently Amended)   The reamer of claim 1
<u>wherein</u> there are a plurality of first curved portions and a
plurality of second curved portions, and wherein the number of
first curved portions equals the number of second curved
portions.

9.    (Withdrawn)    The reamer of claim 8 wherein the number of
first curved portions is 2 or 4.

10.   (Withdrawn and Previously Presented)    The reamer of claim
1 wherein there are a pair of first curved portions that are
separated by a pair of second curved portions, together
describing a cruciform shape.

11. to 16.     (Cancelled)

17.   (Withdrawn and Previously Presented)    The reamer of claim
1 wherein a dynamic profile area of the reamer is circular.

18. to 25.     (Cancelled)

26.   (Previously Presented)    The reamer of claim 1 wherein the
alignment structure comprises:
    a)    a first bar having a first length extending to opposed
          terminal ends connected to the inner surface of the
          dome portion at locations along the second theoretical
          plane; and
    b)    a cross-member having opposed free ends and being of a
          lesser length than the bar, the cross-member
          intersecting the bar at the axis to define a cruciform
          shape for receipt by a bayonet catch on a holder,

while allowing removal of debris adjacent the free
ends of the cross-member.

27. to 32.      (Cancelled)

33.   (Currently Amended)      A surgical reaming assembly
comprising:
    a)   a hollow dome comprising:
       i)   a dome portion of a hemisphere extending from an
          apex to a lower edge, the dome portion being
          rotatable about a longitudinal axis that is
          perpendicular to a theoretical equatorial plane of
          the hemisphere and that passes through the apex of
          the dome portion, wherein the dome portion has an
          outer surface presenting multiple cutting sites
          comprising apertures suitable for passing debris
          into a cavity defined by an inner surface of the
          dome where the debris may accumulate;
       ii)  at least two opposed first edge portions of the
          lower edge residing on the theoretical equatorial
          plane, wherein a second theoretical plane
          <u>perpendicular to the equatorial plane</u> intersects
          ~~the dome portion along~~ the longitudinal axis and
          ~~along the~~ <u>two of the at least two</u> first edge
          portions residing on the theoretical equatorial
          plane; and
      iii) at least two <u>continuously curved</u> second edge
          portions of the lower edge spaced from the
          theoretical equatorial plane toward the apex,
          wherein at least one ~~of the~~ second edge <u>portion</u>
          ~~portions~~ resides on opposite sides of the second

theoretical plane ~~with at least two of the second~~ ~~edge portions being~~ disposed between and connected to two of the first edge portions; and[[;]]

b)    an alignment structure for detachably connecting the hollow dome to a drive mechanism, wherein the alignment structure comprises:

   i)   a first bar having a first length extending to opposed first ends connected to the inner surface of the dome portion at locations along the second theoretical plane;

   ii)  a second bar bisecting the first bar, wherein the second bar has a second length extending to opposed second ends that reside intermediate the theoretical equatorial plane and the apex of the dome portion and that are spaced inwardly from the second edge portions of the dome; and

   iii) wherein the first length of the first bar is greater than the second length of the second bar; and

c)    a holder that is detachably connectable to the alignment structure for transmitting rotational torque to the hollow dome.


34.   (Withdrawn and Previously Presented)    The assembly of claim 33 wherein the hollow dome and the alignment structure comprise an acetabular reamer that is detachably connectable to the holder by a bayonet catch.


35. to 38.    (Cancelled)

39. (Previously Presented)   The reamer of claim 1 wherein the second theoretical plane bisects the dome portion along the first edge portions residing on the theoretical equatorial plane.

40. (Previously Presented)   The reamer of claim 1 wherein the alignment structure comprises:
 
    a)    a first bar having a first length extending to opposed first ends connected to the inner surface of the dome portion at locations along the second theoretical plane;

    b)    a second bar intersecting the first bar, wherein the second bar has a second length extending to opposed second ends that reside intermediate the theoretical equatorial plane and the apex of the dome portion and that are spaced inwardly from the second edge portions of the dome; and

    c)    wherein the first length of the first bar is greater than the second length of the second bar.

41. (Previously Presented)   The reamer of claim 1 wherein the first bar is aligned along the second theoretical plane and intersects the dome portion along the longitudinal axis and along the first edge portions residing on the theoretical equatorial plane.

42. (Previously Presented)   The reamer of claim 1 wherein the first bar is aligned along the second theoretical plane, intersecting the longitudinal axis and bisecting the first edge portions.

43.  (Previously Presented)   The reamer of claim 1 wherein second bar intersects the first bar at a right angle.

44.  (Previously Presented)   The reamer of claim 1 wherein the opposed ends of the first bar are connected to the inner surface of the dome portion at locations along the second theoretical plane and spaced from the theoretical equatorial plane toward the apex.

45.  (Previously Presented)   The reamer of claim 1 wherein the second bar bisects the first bar.

46.  (New)     A surgical reaming assembly comprising:
   a)   a hollow dome comprising:
      i)   a dome portion of a hemisphere extending from an apex to a lower edge, the dome portion being rotatable about a longitudinal axis that is perpendicular to a theoretical equatorial plane of the hemisphere and that passes through the apex of the dome portion, wherein the dome portion has an outer surface presenting multiple cutting sites comprising apertures suitable for passing debris into a cavity defined by an inner surface of the dome where the debris may accumulate;
      ii)   at least two opposed first edge portions of the lower edge residing on the theoretical equatorial plane, wherein a second theoretical plane perpendicular to the equatorial plane intersects the longitudinal axis and two of the at least two first edge portions residing on the theoretical equatorial plane; and

      iii) at least two continuously curved second edge
           portions of the lower edge spaced from the
           theoretical equatorial plane toward the apex,
           wherein at least one second edge portion resides
           on opposite sides of the second theoretical plane
           disposed between and connected to two of the first
           edge portions; and

b)     an alignment structure for detachably connecting the
       hollow dome to a drive mechanism, wherein the
       alignment structure comprises:

      i)    a first bar having a first length extending to
           opposed first ends connected to the inner surface
           of the dome portion at locations along the second
           theoretical plane;

      ii)   a second bar bisecting the first bar, wherein the
           second bar has a second length extending to
           opposed second ends that reside intermediate the
           theoretical equatorial plane and the apex of the
           dome portion and that are spaced inwardly from
           the second edge portions of the dome; and

      iii) wherein the first length of the first bar is
           greater than the second length of the second bar.

REMARKS


Claims 1 to 10, 17, 26, 32 to 34 and 39 to 46 are pending.
Claims 2, 3, 5, 7 to 10, 17, 32 and 34 are withdrawn.  Claim 32
is cancelled and claim 46 is new.

No claims are allowed.


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                              Respectfully submitted,


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